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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte DAE-SUNG HAN, CHUL KIM, YONG-WOON HAN,
SEONG-DEOG JANG, KYUNG-HEE HAM, JOO-YEONG YEO
and HAN-SEONG KANG

Appeal 2009-0354
Application 10/713,159
Technology Center 3700

Decided:¹ April 21, 2009

Before WILLIAM F. PATE III, STEVEN D.A. McCARTHY
and STEFAN STAICOVICI, *Administrative Patent Judges*.

McCARTHY, *Administrative Patent Judge*.

DECISION ON APPEAL

¹ The two month time period for filing an appeal or commencing a civil action, as recited in 37 CFR § 1.304 (2008), begins to run from the Decided Date shown on this page of the decision. The time period does not run from the Mail Date (paper delivery) or the Notification Date (electronic delivery).

1 STATEMENT OF THE CASE

2 The Appellants appeal under 35 U.S.C. § 134 (2002) from the final
3 rejection of claims 1-3 under 35 U.S.C. § 102(b) (2002) as being anticipated
4 by Ragland (US 6,104,004, issued Aug. 15, 2000); the final rejection of
5 claims 4, 5, 7, 8, 15 and 16 under 35 U.S.C. § 103(a) (2002) as being
6 unpatentable over Ragland, Makris (GB 2 286 111 A, publ. Aug. 9, 1995),
7 and Huck (US 3,154,004, issued Oct. 27, 1964); the final rejection of claim
8 6 under § 103(a) as being unpatentable over Ragland, Makris, Huck and Han
9 (KR 10-2002-0016089 A, publ. Mar. 4, 2002); and the final rejection of
10 claims 9 and 10 under § 103(a) as being unpatentable over Ragland, Makris,
11 Huck and Hennick (US 5,189,945, issued Mar. 2, 1993). We have
12 jurisdiction under 35 U.S.C. § 6(b) (2002).

13 We AFFIRM.

14 Independent claim 1 is typical of the claims on appeal:

- 15
- 16 1. A cooking apparatus, comprising:
17 a cabinet opened at a top surface thereof to
18 provide an opening over which food to be cooked
19 is laid;
20 a grill unit seated in the opening of the
21 cabinet so as to support the food over the opening;
22 a heating unit provided in the cabinet so that
23 a front surface thereof faces the grill unit to radiate
24 thermal energy to the grill unit; and
25 a plurality of reflecting members provided at
26 predetermined positions around a rear surface of
27 the heating unit, the reflecting members installed
28 to be spaced apart from each other by a
29 predetermined gap to provide an air layer between
30 the reflecting members.
- 31

ISSUES

The Appellants argue claims 1-3 as a group. (App. Br. 6). Claim 1 is representative of the group. *See* 37 C.F.R. § 41.37(c)(1)(vii) (2008). With respect to claims 1-3, the Appellants contend that Ragland fails to disclose a plurality of reflecting members provided at predetermined positions around a rear surface of the heating unit, the reflecting members installed to be spaced apart from each other by a predetermined gap to provide an air layer between the reflecting members. (App. Br. 6; Reply Br. 2). The Examiner finds that Ragland discloses multilayer metal foil inserts (two inserts designated 8 and one insert designated 16) located below a rear surface of Ragland's heating element 4. (Ans. 6). The Examiner also finds that each of Ragland's inserts consists of reflecting members in the form of metal foil layers embossed to space apart the foil layers from each other by predetermined gaps. (Ans. 3, citing, *e.g.*, Ragland, col. 3, ll. 58-61 and col. 4, ll. 10-21 and 36-57).

16 The Appellants argue claims 4-10, 15 and 16 separately. With respect
17 to claim 5, the Appellants contend that Ragland, Makris and Huck fail to
18 suggest that “the thermal heat generated by the heating units is . . . limitedly
19 transmitted to a portion of the heating units due to a heating insulating effect
20 of the air layer provided between the reflecting members.” (App Br. 7). The
21 Examiner finds that Ragland discloses reflective elements separated by air
22 layers and that air layers would inherently produce the recited heat insulating
23 effect. (Ans. 6).

24 The Appellants quote limitations from each of claims 4, 7, 8, 15 and
25 16, contending without further explanation that the combination of Ragland,
26 Makris and Huck would not have taught the limitations. (App. Br. 7-8).

1 With respect to claim 6, the Appellants contend without further explanation
2 that the combination of Ragland, Makris, Huck and Han would not have
3 taught that each of the heating units recited in parent claim 4 “includes a
4 ceramic member with a heating element to generate the thermal energy.”
5 (App. Br. 8). The Appellants also quote limitations from each of claims 9
6 and 10, contending without further explanation that the combination of
7 Ragland, Makris, Huck and Hennick would not have taught the limitations.
8 (*Id.*) The Appellants round out their argument by contending that

9 [o]bviousness can only be established by
10 combining or modifying the teachings of the prior
11 art to produce the claimed invention where there is
12 some teaching, suggestion, or motivation to do so
13 found either explicitly or implicitly in the
14 references themselves or in the knowledge
15 generally available to one of ordinary skill in the
16 art

17 (App. Br. 9), and asserting that “[n]othing in the cited prior art references
18 teaches or suggests the features as recited in claims 4-10, 15 and 16 . . .”
19 (*id.*).

20 This appeal turns on six issues:

21 Have the Appellants shown that the Examiner erred in
22 finding that Ragland discloses a cooking apparatus including a
23 plurality of reflecting members provided at predetermined
24 positions around a rear surface of a heating unit as recited in
25 claim 1?

26 Have the Appellants shown that the Examiner erred in
27 finding that Ragland discloses a cooking apparatus including a
28 plurality of reflecting members spaced apart from each other by

1 a predetermined gap to provide an air layer between the
2 reflecting members as recited in claim 1?

3 Have the Appellants shown that the Examiner erred in
4 finding that Ragland discloses that the thermal heat generated
5 by a plurality of heating units is limitedly transmitted to a
6 portion of the heating units due to a heating insulating effect of
7 the air layer provided between the reflecting members as recited
8 in claim 5?

9 Have the Appellants shown that the Examiner failed to
10 articulate reasoning with some rational underpinning sufficient
11 to support the conclusion that the teachings of Ragland, Makris
12 and Huck would have suggested the limitations of claims 4, 7,
13 8, 15 and 16 which the Appellants contend to be missing from
14 those references?

15 Have the Appellants shown that the Examiner failed to
16 articulate reasoning with some rational underpinning sufficient
17 to support the conclusion that the teachings of Ragland, Makris,
18 Huck and Han would have suggested heating units including
19 ceramic members with heating elements to generate thermal
20 energy as recited in claim 6?

21 Have the Appellants shown that the Examiner failed to
22 articulate reasoning with some rational underpinning sufficient
23 to support the conclusion that the teachings of Ragland, Makris,
24 Huck and Hennick would have suggested the limitations of
25 claims 9 and 10 which the Appellants contend to be missing
26 from those references?

FINDINGS OF FACT

2 The record supports the following findings of fact ("FF") by a
3 preponderance of the evidence.

4 1. Ragland discloses a portable household electric grill including a
5 cabinet or lower housing *1* and a grill unit *3*. The lower housing *1* is opened
6 at a top surface to provide an opening. The grill unit *3* is seated in the
7 opening so as to support food *14* over the opening. (Ragland, col. 5, l. 66 –
8 col. 6, l. 3, col. 6, ll. 33-36, and Fig. 1).

9 2. Ragland's grill also includes a heating unit 4 provided in the
10 cabinet. (Ragland, col. 6, ll. 4-5 and Fig. 1). The heating unit 4 comprises
11 an electric heating element with a power control switch 6. (Ragland, col. 6,
12 ll. 5-9 and Fig. 2a).

13 3. Ragland's heating unit 4 is positioned underneath the grill unit
14 3. (Ragland, col. 6, ll. 4-5). If the side of the heating unit 4 facing the grill
15 unit 3 is defined as the front surface of the heating unit 4, then the rear
16 surface of the heating unit 4 faces downwardly. (See Fig. 1).

17 4. Ragland's grill includes two multilayer metal foil inserts 8
18 supported inside the lower housing 1 below the heating unit 4. (Ragland,
19 col. 6, ll. 10-13 and Fig. 1). Ragland discloses that the inserts 8 are shaped
20 and positioned inside the lower housing 1 to provide reflection of the
21 radiated heat from the heating unit 4 toward food 14 on the grill unit 3.
22 (Ragland, col. 6, ll. 33-36). Fig. 1 of Ragland depicts the inserts 8
23 positioned around the downwardly facing surface of the heating unit 4.

24 5. Ragland's grill also includes a multilayer metal foil insert 16 in
25 the lower housing 1 below the heating unit 4. (Ragland, col. 6, ll. 54-57 and
26 Fig. 1). Ragland discloses using the insert 16 as a flavor enhancer by

1 providing a hot surface on which grease drippings are vaporized or smoked.
2 (Ragland, col. 6, l. 66 – col. 7, l. 2). Fig. 1 of Ragland depicts the insert *16*
3 spaced apart from the inserts *8* by a gap open to the atmosphere through the
4 opening at the top surface of the lower housing *1* and through the grill unit *3*.

5 6. Ragland's multilayer metal foil inserts *8, 16* include four layers
6 of embossed metal foil and a smooth inside layer facing the food *14*.

7 (Ragland, col. 6, ll. 14-20). Ragland teaches that the four layers of
8 embossed metal foil beneath the inside layer provide appropriate reflectivity
9 to assist in reflecting the heat radiated between the layers, so that the heat
10 can be radiated and focused back inside the grill towards the food on the
11 grill surface. (Ragland, col. 4, ll. 16-21).

12 7. Embossing the layers of metal foil in Ragland's multilayer
13 metal foil inserts *8, 16* provides separation and gaps between the layers.
14 Ragland discloses that the separation or gaps between the layers of metal foil
15 provide insulation value for containing heat within the grill. (Ragland, col.
16 4, ll. 40-48). Since the Appellants have identified no passage of Ragland
17 which discloses forming the multilayer metal foil inserts *8, 16* in a controlled
18 atmosphere and since no such passage is apparent, the gaps necessarily
19 provide air layers between the foil layers.

20 8. Ragland's grill includes an opening *18* provided in the bottom
21 portion of the lower housing *1* to provide a path for excess or non-vaporized
22 grease dripping from the food *14* to pass through the opening *18* into a
23 collection pan *19*. (Ragland, col. 7, ll. 8-12). Fig. 1 of Ragland shows the
24 multilayer metal foil inserts *8* spaced apart from each other by a gap
25 spanning the opening *18*. Fig. 1 further depicts this gap as being open to the

1 atmosphere through the opening at the top surface of the lower housing *1*
2 and through the grill unit *3*.

3 9. Makris discloses that, if food is heated from below, the heater
4 should be displaced to either side of the food position so that juices and
5 other liquids do not fall on the heater. (Makris 1, ll. 3-6).

6 10. Makris discloses a grill including a cabinet or chamber *11* and
7 an open top covered by a grill unit or grid *14* on which food to be cooked is
8 supported. (Makris 2, ll. 21-25).

9 11. Makris' chamber *11* includes two inclined walls *21* along the
10 sides of the chamber *11*. The inclined walls *21* mount liquid-fueled radiant
11 heaters *23*. The heaters *23* are arranged to direct heat upwardly toward the
12 grid *14*. (Makris 2, l. 30 – 3, l. 3).

13 12. Huck discloses an oven toaster *10* including a cabinet or lower
14 shell *22* and a grill *40* adapted to be supported on flanges *46* over an opening
15 at the top of a perimeter wall *23* of the lower shell *22* (Huck, col. 2, ll. 20-23
16 and 39-46).

17 13. Huck's toaster *10* also includes two heating elements *70, 71* in
18 the lower shell *22* (Huck, col. 2, ll. 59-62). The heating elements *70, 71* take
19 the form of heating coils supported by elongated ceramic rods *74*. (Huck,
20 col. 2, ll. 62-64).

21 14. Huck discloses that the heating elements are laterally offset
22 from the area where the food is placed on the grill such that any drippings
23 fall down on a removable tray and do not cause any damage to the heating
24 elements. (Huck, col. 2, l. 68 – col. 3, l. 1).

25 15. Huck's toaster *10* includes a vertically movable on-off switch
26 and a toast timing cycle control handle *28*. (Huck, col. 3, ll. 12-15). The

- 1 toast timing cycle control handle adjusts the period of time in which a
- 2 thermal relay reacts to control the heating or toasting cycle. (Huck, col. 3, ll.
- 3 19-26).

4 16. Han discloses a reflective cooker 100 including an electric
5 heater 120 installed in a cabinet or body 110. The heater includes a hot wire
6 122 and a far infrared ray emitting body 124 of ceramic. (Han, Abstract).

7 17. Hennick discloses a food support for heating food which is
8 cooled by circulating fluid. (Hennick, col. 5, ll. 17-20). Hennick states that
9 the food support may be used with indoor cooking stoves. (Hennick, col. 5,
10 ll. 12-16). Hennick discloses that cooling the food support makes cleaning
11 the grill easier by preventing grease from burning on the cooking surface
12 and bits of food from sticking to the surface. (Hennick, col. 3, ll. 55-66).

13 18. The upper surface of Hennick's food support is formed by the
14 upper surfaces of a plurality of parallel spaced tubes 12. The interiors of the
15 tubes 12 are hollow. (Hennick, col. 5, ll. 20-26).

16 19. Hennick's food support includes a housing consisting of two
17 separate oblong portions 19 of pan-like configuration which communicate
18 with opposite sides of the parallel spaced tubes 12. Water placed in
19 reservoirs 20 of each of the pan-like housing portions 19 circulates through
20 the tubes 12 to cool the surfaces of the tubes. (Hennick, col. 5, ll. 30-42).

PRINCIPLES OF LAW

23 A claim is unpatentable for obviousness under 35 U.S.C. § 103(a) if
24 "the differences between the subject matter sought to be patented and the
25 prior art are such that the subject matter as a whole would have been obvious
26 at the time the invention was made to a person having ordinary skill in the

1 art to which said subject matter pertains.” In *Graham v. John Deere Co.*,
2 383 U.S. 1 (1966), the Supreme Court set out factors to be considered in
3 determining whether claimed subject matter would have been obvious:

4
5 Under § 103, the scope and content of the prior art
6 are to be determined; differences between the prior
7 art and the claims at issue are to be ascertained;
8 and the level of ordinary skill in the pertinent art
9 resolved. Against this background the obviousness
10 or nonobviousness of the subject matter is
11 determined.
12

13 *Id.*, 383 U.S. at 17.

14 The Appellants do not rely on any objective evidence of patentability
15 in this appeal. (See App. Br. 13). Therefore, the Appellants’ burden in this
16 appeal is to show that the Examiner has identified insufficient evidence to
17 support a conclusion of prima facie obviousness. *In re Kahn*, 441 F.3d 977,
18 985-86 (Fed. Cir. 2006) (citing *In re Rouffet*, 149 F.3d 1350, 1355 (Fed. Cir.
19 1998)). “[T]he simple substitution of one known element for another” or
20 “the mere application of a known technique to a piece of prior art ready for
21 the improvement” generally will be obvious unless the substitution or the
22 application of the known technique would have been beyond the level of
23 ordinary skill in the art or unless the results of the substitution or the
24 application of the known technique would not have been predictable by one
25 of ordinary skill in the art. *KSR Int’l Co. v. Teleflex, Inc.*, 550 U.S. 398, 417
26 (2007). That said, “rejections on obviousness grounds cannot be sustained
27 by mere conclusory statements; instead, there must be some articulated
28 reasoning with some rational underpinning to support the legal conclusion of
29 obviousness.” *Kahn*, 441 F.3d at 988.

1 ANALYSIS

2 Ragland discloses multilayer metal foil inserts 8, 16 which both act as
3 reflecting members themselves and include reflecting members in the form
4 of foil layers. (See FF 4-6). Claim 1 recites that the front surface of the
5 heating unit of the claimed cooking apparatus faces the grill unit. When this
6 limitation is applied to the heating unit 4 of Ragland, it implies that the rear
7 surface of Ragland's heating unit 4 faces downwardly (FF 3) towards the
8 multilayer metal foil inserts 8, 16 beneath the heating unit 4 (*see* FF 4 and
9 5). As a consequence, Ragland's inserts 8, 16 (as well as the foil layers from
10 which the inserts are made) are provided at predetermined positions around
11 the rear surface of the heating unit 4. (FF 4).

12 Construing Ragland's multilayer metal foil inserts 8, 16 as the
13 reflective members recited in claim 1, the inserts are spaced apart from each
14 other by predetermined gaps. (FF 5 and 8). Each of these predetermined
15 gaps is open to the atmosphere (*id.*); hence, each gap provides an air layer
16 between the inserts 8, 16 when the inserts are construed as reflecting
17 members. The Examiner finds that the air layers between the inserts 8, 16
18 inherently would produce a heat insulating effect. (Ans. 6). Although the
19 Appellants contend that "nothing in Ragland teaches or suggests that an air
20 layer is provided between inserts 8 and 16 to produce a heat insulating
21 effect" (App. Br. 7), the Appellants provide no evidence or reasoning
22 explaining why the air layers between the inserts 8, 16 would not provide
23 thermal insulation and thereby limit transmission of heat by reflection from
24 the inserts 8, 16.

25 Construing instead the foil layers of the inserts 8, 16 as the recited
26 reflective members, the foil layers are embossed to provide predetermined

1 separations or gaps which, in turn, provide air layers between the foil layers.
2 (FF 7). Ragland discloses that the foil layers repeatedly reflect heat. (*See*
3 FF 6). In addition, Ragland discloses that the air layers between the foil
4 layers have a heat insulating effect (*see* FF 7) which necessarily would limit
5 transmission of the heat by reflection from the foil layers.

6 Both Makris and Huck disclose devices in which food positioned on
7 grill units is heated from below by a pair of heaters. (FF 10, 12 and 13).
8 Makris suggests displacing the heaters to either side of the food position so
9 that juices and other liquids do not fall on the heater. (FF 9). Huck makes a
10 similar suggestion. (*See* FF 14). Ragland, on the other hand, discloses a
11 grill having a heating unit centered under the grill unit. (FF 2 and 3).
12 Makris and Huck would have suggested improving Ragland's grill by
13 substituting a pair of heating units set in both sides of the cavity to either
14 side of the food position. Makris would have suggested improving
15 Ragland's grill by setting the heating units so that the front surfaces of the
16 units faced each other. Makris also would have suggested inclinedly
17 arranging the two heating units to tilt toward the opening over which the
18 grill unit is positioned as disclosed in Makris (*see* FF 11) so as to heat the
19 food on the grill unit evenly while protecting the heating units from
20 drippings.

21 Given the space requirements in the interior of the chamber of
22 Ragland's grill, it would have been obvious to a person of ordinary skill in
23 the art to position the inclinedly arranged heating units over the two
24 multilayer metal foil inserts 8 so that the inserts could reflect heat back
25 toward the food on the grill unit. Positioning the inclinedly arranged heating
26 units in this manner would have provided first, second and third reflecting

1 members (that is, foil layers) in each of the inserts 8 at predetermined
2 positions around the rear surfaces of the two heating units.

3 As the Examiner points out (*see Ans. 4*), one of ordinary skill in the
4 art would have found this improvement obvious because the substitution of
5 the two inclined heating units would have improved the efficiency with
6 which heat was directed toward the food on the grill unit. The Appellants do
7 not point out any error in this reasoning. The Appellants fail to offer any
8 explanation why such an improvement might have been beyond the level of
9 ordinary skill in the art. The Appellants also fail to identify any result of the
10 improvement which one of ordinary skill in the art might have been unable
11 to predict. (*See, e.g., App. Br. 7-8*). Ragland's grill, improved in the
12 manner proposed, would have met the limitations of claims 4, 7, 8 and 16
13 which the Appellants contend to be missing from Ragland, Makris and
14 Huck.

15 Huck discloses the use of two electric heating elements including
16 elongated ceramic rods with heating coils to generate thermal energy. (FF
17 13). Huck uses a timer switch to control an operation time of the heating
18 units and a power switch to control a heating temperature of the heating
19 units. (FF 15). Han similarly discloses a grill having electric heating units
20 which include ceramic bodies with hot wires for generating thermal energy.
21 (FF 16). Ragland, on the other hand, discloses a grill having an electric
22 heating unit centered under the grill unit. (FF 2 and 3). Makris and Huck
23 (along with Han, in the case of claim 6) would have suggested the simple
24 substitution of two electric heating elements including elongated ceramic
25 rods with heating coils to generate thermal energy for Ragland's single
26 electric heating unit positioned underneath the grill unit. In addition, Huck

1 would have suggested further improving Ragland's grill by using a timer
2 switch to control an operation time of the heating units and by using a power
3 switch to control a heating temperature of the heating units.

4 As the Examiner points out (*see Ans. 4-5*), one of ordinary skill in the
5 art would have found this improvement obvious because the substitution of
6 the two ceramic heating units and the use of the power and timing switches
7 would have allowed the food on the grill unit to heat more uniformly. The
8 Appellants do not point out any error in this reasoning. The Appellants fail
9 to offer any explanation why the substitution of the two ceramic heating
10 units and the use of the power and timing switches would have been beyond
11 the level of ordinary skill in the art. The Appellants also fail to identify any
12 result of the substitution which one of ordinary skill in the art might have
13 been unable to predict. (*See, e.g.*, App. Br. 7-8). Ragland's grill, improved
14 in the manner proposed, would have met the limitation of claim 15 which
15 the Appellants contend to be missing from Ragland, Makris and Huck, and
16 the limitation of claim 6 which the Appellants contend to be missing from
17 Ragland, Makris, Huck and Han.

18 Hennick teaches a grill unit for use with a cooking stove, including a
19 plurality of water tanks containing water seated on both sides of a cabinet of
20 a grill. (FF 17 and 19). Hennick further discloses a plurality of grill pipes or
21 tubes arranged between the water tanks to connect the water tanks to each
22 other. (FF 18 and 19). Hennick's grill pipes have hollow structures so that
23 the water supplied to the pipes from the water tanks flows within the pipes.
24 (*Id.*) Hennick discloses that the grill pipes are continuously cooled by the
25 water supplied by the water tanks, preventing the food supported by the grill
26 pipes from being burned. (FF 17 and 19).

As the Examiner points out (*see* Ans. 5), Hennick would have suggested the simple substitution of Hennick's grill unit for the grill unit disclosed in Ragland. More specifically, Hennick would have suggested that the substitution would make cleaning the grill unit easier by preventing grease from burning on the cooking surface and also by preventing bits of food from sticking to the surface. Hennick's grill unit would function in the same manner when positioned on Ragland's grill as the grill unit would function when used in association with any other cooking stove. The Appellants do not point out any error in this reasoning. The Appellants fail to offer any explanation why the substitution would have been beyond the level of ordinary skill in the art. The Appellants also fail to identify any result of the substitution which one of ordinary skill in the art might have been unable to predict. (*See, e.g.*, App. Br. 7-8). Ragland's grill, improved in the manner proposed, would have met the limitations of claims 9 and 10 which the Appellants contend to be missing from Ragland, Makris, Huck and Hennick.

CONCLUSIONS

19 The Appellants have not shown that the Examiner erred in finding that
20 Ragland discloses a cooking apparatus including a plurality of reflecting
21 members provided at predetermined positions around a rear surface of a
22 heating unit as recited in claim 1.

23 The Appellants also have not shown that the Examiner erred in
24 finding that Ragland discloses a cooking apparatus including a plurality of
25 reflecting members spaced apart from each other by a predetermined gap to
26 provide an air layer between the reflecting members as recited in claim 1.

1 Therefore, the Appellants have not shown that the Examiner erred in
2 rejecting claims 1-3 under § 102(b) as being anticipated by Ragland.

3 The Appellants have not shown that the Examiner failed to articulate
4 reasoning with some rational underpinning sufficient to support the
5 conclusion that the teachings of Ragland, Makris and Huck would have
6 suggested the limitations of claims 4, 7, 8, 15 and 16 which the Appellants
7 contend to be missing from those references. Therefore, the Appellants have
8 not shown that the Examiner erred in rejecting claims 4, 7, 8, 15 and 16
9 under § 103(a) as being unpatentable over Ragland, Makris and Huck.

10 The Appellants have not shown that the Examiner erred in finding that
11 Ragland discloses that the thermal heat generated by a plurality of heating
12 units is limitedly transmitted to a portion of the heating units due to a
13 heating insulating effect of the air layer provided between the reflecting
14 members as recited in claim 5. Therefore, the Appellants have not shown
15 that the Examiner erred in rejecting claim 5 under § 103(a) as being
16 unpatentable over Ragland, Makris and Huck.

17 The Appellants have not shown that the Examiner failed to articulate
18 reasoning with some rational underpinning sufficient to support the
19 conclusion that the teachings of Ragland, Makris, Huck and Han would have
20 suggested heating units including ceramic members with heating elements to
21 generate thermal energy as recited in claim 6. Therefore, the Appellants
22 have not shown that the Examiner erred in rejecting claim 6 under § 103(a)
23 as being unpatentable over Ragland, Makris, Huck and Han.

24 The Appellants have not shown that the Examiner failed to articulate
25 reasoning with some rational underpinning sufficient to support the
26 conclusion that the teachings of Ragland, Makris, Huck and Hennick would

1 have suggested the limitations of claims 9 and 10 which the Appellants
2 contend to be missing from those references. Therefore, the Appellants have
3 not shown that the Examiner erred in rejecting claims 9 and 10 under
4 § 103(a) as being unpatentable over Ragland, Makris, Huck and Hennick.

5

6 DECISION

7 The Examiner's rejection of claims 1-10, 15 and 16 is AFFIRMED.
8 No time period for taking any subsequent action in connection with
9 this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv) (2007).

10

11 AFFIRMED

12

13

14 mls

15

16

17
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